THE STUDY OF ANTIMICROBIAL PROPERTIES FROM PIPER BETLE LEAF EXTRACT ON SILK FABRIC

AISYAH BINTI SAIRONI

Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Textile Technology
in the Faculty of Applied Sciences
Universiti Teknologi MARA

JULY 2018

This final year project entitled **"The Study of Antimicrobial Properties from Piper Betle Leaf on Silk Fabric"** was submitted by Aisyah binti Saironi, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Textile Technology, in the Faculty of Applied Sciences, and was approved by

_____

PM Dr Khadijah binti Omar
Supervisor
B.Sc. (Hons.) Textile Technology
Faculty of Applied Sciences
Universiti Teknologi Mara
40450 Shah Alam
Selangor

_____

Dr Mohd Iqbal bin Misnon
Coordinator FSG 661 (AS248)
B.Sc. (Hons.) Textile Technology
Faculty of Applied Sciences
Universiti Teknologi Mara
40450 Shah Alam
Selangor

_____

Dr Nor Dalila binti Nor Affandi
Programme Coordinator (AS232 & AS248)
B.Sc. (Hons.) Textile Technology
Faculty of Applied Sciences
Universiti Teknologi Mara
40450 Shah Alam
Selangor

Date: JULY 2018

TABLE OF CONTENTS

ABSTRACT

THE STUDY OF ANTIMICROBIAL PROPERTIES FROM PIPER BETLE LEAF EXTRACT ON SILK FABRIC

The present studyaimed to test the antimicrobial activity of piper betle which was extracted using two different extraction methods applied on silk fabric. It is to increase its ability to prevent the growth of microbes that may harm the fabric itself and the wearer. Piper betle leaf was extracted using soxhlet extraction and maceration extraction method with ethanol as a solvent. The piper betle extract obtained was then exhausted on the silk fabric with two different concentrations and later tested for its antimicrobial activity against gram-positive and gram-negative bacteria which are *staphylococcus aureus* and *klebisella pneumoniae*. After 24 hours of incubation, zone of inhibition on agar plate were measured. The results showed that silk fabric treated with highly concentrated piper betle leaf extract obtained from soxhlet extraction method has larger zone of inhibition for *klebisella pneumonia* indicating that the treated fabric has great antimicrobial property.